

**DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge Program**

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January 11, 2008

Contract No. 04-0120F4  
04-SF-80-13.2 / 13.9  
Self-Anchored Suspension Bridge  
Letter No. 05.03.01-001097

Michael Flowers  
Project Executive  
American Bridge/Fluor Enterprises, a JV  
375 Burma Road  
Oakland, CA 94607

Dear Michael Flowers,

**Project Schedule Submission for December 2007**

The Department has completed review of Submittals ABF-SUB-000511R00, "Project Schedule Revision No. 15," (Primavera file "*ABF.U15.R0.122007.xer*"), and ABF-SUB-000512R00, "Project Schedule Status No. 15," (Primavera file "*ABF.U15.S0.122007.xer*") dated December 19 and December 26, 2007, respectively.

The status file "S0" is an update of the November 2007 schedule which contains actual start dates, actual finish dates, estimated remaining durations and expected finish dates. The revision file "R0" is ABF's revised work plan for completing the Project. Both files have a data date of December 20, 2007.

These schedule submissions are "Accepted as Noted," as ABF's current plan to complete the work. Comments concerning the December 2007 schedule revision "R0" are listed below. It is important to note that this schedule review is not all-inclusive due to the significant changes that have occurred since the November 2007 schedule submission.

- 82 new activities added
- 58 actual starts without progress this period
- 19 as-built activities added
- 26 in progress activities added
- 161 out of sequence activities
- 9 modified original durations
- 54 activities with diminishing progress this period
- 397 new activity codes added
- 311 modified activity codes
- 49 existing activity relationships deleted
- 39 activities have no finish relationships
- 183 relationships added when activities were added
- 58 added expected finish dates

**A Project and Schedule Status**

**A1 Number 1.4.4:** It is noted that 24 CCOs have been formally issued with Authorizations to Proceed. Three of the 24 CCOs have agreed upon pricing and are ready for CCO sign-off and implementation into the project schedule. Incorporate all necessary logic and other schedule attributes for the following CCOs:

- CCO 15 - W2-Hinge K and Saddle Modification
- CCO 23 - Revise W@ Cap & E2 Cross Beams
- CCO 36 - Tower Anchorage Base Plates and RFI Cleanup

**A2 Number 1.6.1 Current Critical Path:** The critical path has changed from the shear leg barge and crane activities to structural steel fabrication activities. This change in critical path is based on ABF's forecast of on time completion of the shear leg barge crane. Due to activities being performed out of sequence, the schedule submitted has been statused with Progress Override. Based on this approach, the OBG deck fabrication activities are the current controlling operations with a float count of 27 days. However, using the existing activity logic and statusing the schedule with retained logic causes the critical path to shift to the T1 Tower fabrication activities with a total float count of -2 days. Hence, both the OBG and T1 Tower fabrication activities appear to be the current key controlling operations on the Project. Review the CNC activity's relationships for both the OBG and T1 Tower as discussed in State Letter 05.03.01-000551, item D13, to potentially mitigate any delays along these critical paths.

**A3 Number 1.6.1 Current Critical Path:** As discussed, the total float calculation for the T1 tower submittal and fabrication appears to be incorrect. The successor logic tie of Activity T1SUB001810 (CT Approve AWD T Lift 1 Splice) is shown as "Finish to Start" to Activity T1FAB001120 (Perform Fabrication Facility Engineering (CNC)). As agreed, this link is incorrect and will be revised during the January schedule submission.

**A4 Number 1.7.2.1:** The Department's response to TIA 1 was submitted to ABF on December 20, 2007 in State letter 05.03.01-000993. What is the basis of TIA 2 and how is it related to the survey of existing reinforcing bars at Pier E2? Mitigation measures for TIA 3 will be discussed during the weekly schedule meetings. See State letter 05.03.01-001104.

**A5 Number 1.7.3.1:** The Department's response to NOPC 5 was submitted to ABF on January 2, 2008 in State letter 05.03.01-001074.

**A6 Number 1.8:** The forecast completion day numbers for Phases 1, 2 and 3 are incorrect. The correct Day Numbers are 2137, 2317 and 2497, respectively.

**A7** There are numerous activities that contain lag relationships. The use of these relationships creates difficulties in monitoring and tracking progress. Many "Finish to Start" lag relationships should represent activities. It is preferred that the lags are replaced with task activities and the use of lags minimized. Refer to the attached lag report on the main schedule (*ABF.U15.R0.071220 SAS Project - Update 15 dd 12/20/07 rev 0*) for a list of activities with



lag greater than 5 days (LagReport\_MainSchedule\_greaterthan5d.pdf). It is requested that the list of activities be discussed during the weekly schedule meetings.

**A8** There are numerous activities in the schedule with durations greater than 20 days. As agreed during our weekly schedule meetings, activities with durations greater than 20 days starting within six months of the data date would be broken down into more detailed activities with appropriate durations. The activities of particular concern are attached. Modify the activity type to a level of effort and provide additional details of the summary activities as agreed. (Durations\_Greater\_20days.pdf)

**A9** The remaining durations for the activities shown in the December update are greater than those shown in the November update (within one month). The variance in the finish dates between the December and the November updates are greater than one month. Explain the change in extended remaining durations.

Activity ID	Activity Name	Cal...	DEC RD	NOV R.Dur	DEC Start	DEC Finish	DEC TF	Nov Start	Nov Finish	Nov TF	Var
<b>Bridge Deck</b>			29		25-Oct-07 A	02-Feb-08	33	25-Oct-07	12-Dec-07		-34
BDFAB000560	Fabricate Structural Steel - BP & SP Sub Assembly - (3A,3B,4A,4B) - Bridge Deck Lifts 3E, 3W, 4E, 4W	6D-CH	39	20	25-Oct-07 A	02-Feb-08	35	25-Oct-07	12-Dec-07	80	45
<b>T1 Tower</b>			101		28-Jun-06 A	16-May-08	116	28-Jun-06	15-Feb-08		-63
T1SUB001600	Prepare AWD - Shop Practices - T1 Tower Furnish Structural Steel	6D-CH	39	9	28-Jun-06 A	02-Feb-08	100	28-Jun-06	29-Nov-07	156	56
T1FAB000160	Fabricate T1 Tower Cross Bracing Spherical Bushing Bearing	5D-SH	104	55	17-Sep-07 A	16-May-08	118	29-Nov-07	15-Feb-08	182	65
<b>Cable System</b>			42		30-Oct-06 A	22-Feb-08	67	30-Oct-06	30-Nov-07		-55
CAMOB000080	Procure Furnish Hand Rope - Cable System (Kiswire)	5D-SH	44	7	30-Oct-06 A	22-Feb-08	68	30-Oct-06	30-Nov-07	125	57
<b>W2 Cap Beam</b>			38		19-Oct-07 A	15-Feb-08	54	19-Oct-07	05-Dec-07		-48
W2FAB00140	Transport & Deliver to SFOBB - Reinforcing Steel - W2 Cap Beam - Pour 1	5D-SH	17	2	29-Nov-07 A	15-Jan-08	41	20-Nov-07	21-Nov-07	162	35
W2FAB00102	Fabricate Reinforcing Steel - W2 Cap Beam - Pour 2	5D-SH	40	10	19-Oct-07 A	15-Feb-08	55	19-Oct-07	05-Dec-07	178	49
<b>E2 Crossbeam</b>			89		14-Nov-07 A	30-Apr-08	44	14-Nov-07	20-Dec-07		-88
E2SUB000520	Prepare WD - Revised Proposed Modification ISD - E2 Crossbeam	5D-SH	92	21	14-Nov-07 A	30-Apr-08	44	14-Nov-07	20-Dec-07	135	91

**A10** As discussed, the Department does not agree with the stated "actual finish date" of October 26, 2007 provided for the Bridge Deck Weld Trials (BDFAB000560). As previously agreed to during weekly schedule meetings, the completion of the weld trial activity is when all contractual requirements have been achieved and all required documentation is submitted.

**A11** As discussed, the Department does not agree with the stated "actual finish date" of December 11, 2007 provided for the OBG Deck Plate Mock-Up (DBFAB000550). As previously agreed to during weekly schedule meetings, the completion of the Deck Mock-up activity is when all contractual requirements are achieved and all required documentation is submitted.

## **B Area Specific Detail – W2 Cap Beam**

**B1** See comments A9 and D5.

**C Area Specific Detail – Temporary Towers**

**C1 Number 3.2.2.1:** The steel fabrication of Temporary Towers A-C began in September 2007 according to the 4-week rolling schedule. Explain how the termination of Norcal Structural's contract impacts the ability to begin steel fabrication when fabrication of Temporary Towers A-C is 40%, 10%, and 10% completed, respectively.

**C2** As noted in the January 2, 2007 weekly schedule meeting, the fabrication of the built-up box sections for the temporary towers, trusses and driving frames is not reflected in the schedule. The start dates for the fabrication of the towers, trusses, and driving frame activities in the schedule are different from the dates in the 4-week rolling schedule because of this reason. Add the fabrication of the built-up box sections for the various entities to the schedule.

**D Area Specific Detail – OBG / Bridge Deck**

**D1 Numbers 4.2.1.1 and 4.2.1.2:** See MEP section for response.

**D2 Number 4.2.1.5:** TIA 3, related to CCO 21, was partially received on December 21, 2007 with the remaining information submitted December 24, 2007. The Department is currently reviewing this TIA. ABF has not submitted a TIA related to CCO 38. The sooner ZPMC's concerns can be identified; the sooner appropriate mitigation measures can be implemented.

**D3 Number 4.2.1.6:** A coordination meeting with the supplier and the designer was held on December 26, 2007, to resolve these issues.

**D4 Number 4.2.1.7:** RFI 1092, regarding the cable railing interferences along the OBG, was responded to on December 24, 2007.

**D5** As noted below, per the December Schedule Update, ABF has changed the construction sequence between OBG and W2. Per the November Update, Box Girder Lift 1E was set prior to installation of temporary stools and tendons. However, per the December Update, installation of temporary stools and hairpins is shown prior to Box Girder Lift 1E set up. This reduces the total float of the W2 construction sequence from 120 working days to 38 working days. Clarify the change in construction sequencing, as it was not addressed in the schedule update narrative.



ABF 12/20/07 Update

Activity ID	Activity Name	Cal...	OD	Start	Finish	TF	Late Start	Late Finish	2008			2009			
									O	N	D	J	F	M	
Construction				7	23-Dec-08	02-Jan-09	15	16-Jan-09	26-Jan...						
BDCON000090	Set Box Girder on TT - BG Lift 1E	5D-SH	7	23-Dec-08	02-Jan-09	16	16-Jan-09	26-Jan...							Set Box
Construction				36	25-Sep-08	17-Nov-08	40	18-Nov-08	15-Jan...						
W2CONBC0210	Pour 6 - Install Reinforcing Steel, Ducts, Embeds - Top ...	5D-SH	15	25-Sep-08	15-Oct-08	38	18-Nov-08	10-Dec...							Pour 6 - Install Rei
W2CONBC0220	Place Concrete - Pour 6 North - Top Slabs - W2 Cap Be...	5D-SH	1	16-Oct-08	16-Oct-08	38	11-Dec-08	11-Dec...							Place Concrete - F
W2CONBL0220	Place Concrete - Pour 6 South - Top Slabs - W2 Cap B...	5D-SH	1	17-Oct-08	17-Oct-08	38	12-Dec-08	12-Dec...							Place Concrete - F
W2CONBC0230	Cure Concrete - Pour 6 - Top Slabs - W2 Cap Beam	7D	10	18-Oct-08	27-Oct-08	57	14-Dec-08	23-Dec...							Cure Concrete - F
W2CON000040	Remove Formwork - W2 Cap Beam	5D-SH	15	28-Oct-08	17-Nov-08	39	24-Dec-08	15-Jan...							Remove Form
W2CONBJ0110	W2 "E" - Line - Install Temporary Stools and Hairpins	5D-SH	10	04-Nov-08	17-Nov-08	39	02-Jan-09	15-Jan...							W2 "E" - Line

ABF 11/20/07 Update

Activity ID	Activity Name	Cal...	OD	Start	Finish	TF	Late Start	Late Finish	2008			2009			
									O	N	D	J	F	M	
Construction				7	16-Dec-08	24-Dec-08	20	16-Jan-09	26-Jan...						
BDCON000090	Set Box Girder on TT - BG Lift 1E	5D-SH	7	16-Dec-08	24-Dec-08	21	16-Jan-09	26-Jan...							
Construction				67	16-Oct-08	23-Jan-09	179	09-Apr-09	09-Oct...						
W2CONBC0210	Pour 6 - Install Reinforcing Steel, Ducts, Embeds - Top ...	5D-SH	15	16-Oct-08	05-Nov-08	120	09-Apr-09	29-Apr...							
W2CONBC0220	Place Concrete - Pour 6 - Top Slabs - W2 Cap Beam	5D-SH	1	06-Nov-08	06-Nov-08	120	30-Apr-09	30-Apr...							
W2CONBC0230	Cure Concrete - Pour 6 - Top Slabs - W2 Cap Beam	7D	10	07-Nov-08	16-Nov-08	175	01-May-09	10-Ma...							
W2CON000040	Remove Formwork - W2 Cap Beam	5D-SH	15	17-Nov-08	09-Dec-08	120	11-May-09	01-Jun...							
W2CONBJ0110	W2 "E" - Line - Install Temporary Stools and Tendons	5D-SH	20	26-Dec-08	23-Jan-09	181	14-Sep-09	09-Oct...							

**E Area Specific Detail – T1 Tower**

**E1 Number 5.2.1.1:** See comment D2 regarding impacts due to CCO 21 and CCO 38. It is assumed that CCO 36 in Section 5.2.1.1 of the narrative is actually CCO 38.

**E2** There is no link between tower mock up and fabrication of T1 sub-assemblies in the schedule update. The predecessor to the start of T1 fabrication is shown as “AWD for T1 Lift 1 North Tower Shaft C/W Internal Diaphragms Types 1B, 3A - Package 5 - Partial 3 of 3 - Rev 1” (T1SUBBL2043). Verify or revise accordingly.

**E3** The Dimensional Verification Plan is a prerequisite to the start of T1 Tower fabrication, although it is not included in the schedule. According to discussions in the weekly schedule meetings, the submittal of this plan is constantly changing. Add an activity for the Tower Dimensional Verification Plan to the schedule.

**F Area Specific Detail – Cable System**

**F1 Number 6.2.1.1:** See comment H2.

**F2 Numbers 6.2.1.2 and 6.2.2.2:** Add the activities associated with the Contractor’s latest means and methods of fabrication and erection activities to avoid potential interference between the cable and box girder. It is understood that the Contractor’s means and methods for addressing this issue results in no time impact to the project schedule.

**G Area Specific Detail – E2 Cross Beam**

**G1 Number 7.2.1.1:** Access issues to complete the survey of the existing column cages at E2 are currently being worked out with ABF.

**H Area Specific Detail – MEP Services**

**H1 Number 8.2.1.1:** A response to RFI 942 was provided on December 26, 2007 and RFI 941 is currently being evaluated.

**H2 Number 8.2.1.2:** The Department is working to resolve all issues in reference to RFI 270 (Main Cable Lighting).

**H3 Number 8.2.1.3:** Changes in the layout and details of cable tray supports attached to the OBG will be captured under CCO 42S1.

**H4 Number 8.2.1.5:** It was understood at the December 11, 2007 Weekly MEP Coordination Meeting that RFIs 481, 495, and 729 will be added to CCO 31. RFIs 218 and 223 were already included in the draft CCO 31 submitted to ABF with the ATP.

**H5 Number 8.2.1.6:** The Department has addressed this issue in State letter 05.03.01-000998, issued December 21, 2007. This letter was issued to provide a comprehensive list of MEP penetrations at the OBG and will be updated regularly as additional submittals are reviewed. An ATP will be forthcoming.

Sincerely,



GARY PURSELL  
Resident Engineer

cc: Don Ross  
file: 05.03.01, 26.05